

AMENDMENTS TO THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) A power transfer apparatus of a four-wheel drive vehicle, comprising:
a clutch that distributes a torque, that is generated by an engine via a transmission,
between a primary wheel ~~to~~ and a secondary wheel;
inversion detection means for detecting inversion or non-inversion of a gear-shifting
direction of the transmission; and
control means for effecting a control operation such that torque to be transmitted by the
clutch is decreased to a target value in accordance with an inversion signal pertaining to said
gear-shifting direction detected by said inversion detection means.
2. (Original) The power transfer apparatus according to claim 1, wherein said control means
performs the control operation by setting a target control value corresponding to said target value
of said torque to be transmitted, thereby maintaining said target control value for a period of
time.
3. (Original) The power transfer apparatus according to claim 2, further comprising:
accelerator or throttle position detection means for detecting whether an accelerator or
throttle position is in an arbitrary open position or an arbitrary closed position,
wherein, when the inversion signal detected by said inversion detection means arises
during the course of the accelerator or throttle position detected by said accelerator or throttle
position detection means shifting again to an open position after having shifted from an arbitrary
open position to an arbitrary closed position, said control means sets said period of time on the
basis of the inversion signal before the accelerator or throttle position again shifts to the open
position.
4. (Original) The power transfer apparatus according to claim 3, wherein, when the inversion
signal detected by said inversion detection means arises during the course of the accelerator or
throttle position detected by said accelerator or throttle position detection means shifting again to
an open position after having shifted from an arbitrary open position to an arbitrary closed
position and when shifting of the accelerator or throttle position from an arbitrary open position

to an arbitrary closed position has been detected, said control means performs control operation for reducing the torque to be transmitted by the clutch means and making a decrease rate steep at the beginning and then gentle before the inversion signal detected by said inversion detection means arises.

5. (Currently Amended) The power transfer apparatus according to claim 4, wherein said control means controls ~~makes equivalent to a time constant~~ the decrease rate of the torque to be transmitted, in accordance with a time constant.

6. (Original) The power transfer apparatus according to claim 1, wherein said clutch comprises:
a main clutch which is interposed between inner and outer rotary members, which enables transmission of torque by generating frictional engagement force when said inner and outer rotary members rotate in relation to each other, and which increases or decreases said frictional engagement force in accordance with axial pressing force;

a pilot clutch which performs frictional engagement by means of electromagnetic force generated through said energization control; and

conversion means which operates by means of frictional engagement of said pilot clutch, which converts force derived from frictional engagement of said pilot clutch, and which imparts pressing force to said main clutch.

7. (Currently Amended) The power transfer apparatus according to claim 1, wherein ~~the~~ a driving force is transmitted in accordance with ~~the~~ an engagement force of the clutch while the engagement force of the clutch is controlled.

8. (Currently Amended) The power transfer apparatus according to claim 1, wherein ~~the~~ a driving force is transmitted while a differential motion of a differential disposed between the ~~front primary wheel~~ and ~~the secondary wheel~~ rear wheels is limited by controlling ~~the~~ an engagement force of the clutch.

9. (Currently Amended) A power transfer apparatus of a four-wheel drive vehicle, comprising:
a clutch that distributes a torque, that is generated by an engine via a transmission, between a primary wheel ~~to~~ and a secondary wheel;

gear shift status detection means for detecting ~~the~~ a state of gear shift of the transmission, wherein the state of gear shift of the transmission is a gear shifting inversion of the transmission; and

control means for controlling the clutch in such a manner that the torque to be transmitted by the clutch attains a target value in accordance with a gear shift status signal detected by the gear shift status detection means.

10. (Original) The power transfer apparatus according to claim 9, wherein the torque is transmitted in accordance with an engagement force of the clutch while an engagement force of the clutch is controlled by an electromagnetic force derived from energization control.

11. (Currently amended) The power transfer apparatus according to claim 9, wherein the torque is transmitted while a differential motion of a differential disposed between the primary wheel and the secondary wheel is limited by controlling an engagement force of the clutch that is controlled by ~~the~~ an electromagnetic force-derived from energization control.

12. (Currently Amended) A power transfer apparatus of a four-wheel drive vehicle, comprising:
a clutch that distributes a torque, that is generated by an engine via a transmission, between a primary wheel ~~to~~ and a secondary wheel;

means for detecting a gear shifting condition of the transmission, wherein the gear shifting condition is a gear shifting inversion of the transmission; and

a controller that receives an input signal indicating the gear shifting condition and generates a control signal that reduces a torque transmitted by the clutch to a target value.

13. (Canceled)

14. (Canceled)

15. (Currently Amended) A device for controlling torque transmitted by a clutch, comprising:
a controller that generates a control signal based on an input received from a transmission, wherein said control signal is output to said clutch to decrease said torque to a target value, and wherein the input is indicative of an inversion in a gear-shifting direction of the

transmission.

16. (Canceled)

17. (Canceled)

18. (Currently Amended) The device according to claim 15 ~~16~~, wherein said controller sets a target control value corresponding to said target value of said torque to be transmitted, thereby maintaining said target control value for a period of time.